NATIONAL AERONATUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER, FLORIDA

JUSTIFICATION FOR OTHER THAN FULL AND OPEN COMPETITION

(BRAND NAME DETERMINATION)

ESTIMATED ITEM VALUE: $ 1,800 per complete unit
ESTIMATED TOTAL VALUE OF PROCUREMENT: $3,600

1.) Based on the justification provided herein, I recommend that an acquisition be made by other than full and open competition for the contract action described below:

2.) This contract action includes the acquisition and installation of an electrical power meter model number PM820, including its network interface option, manufactured by the Square D Company. The Square D PM820 power meter and its associated network option are used by NASA KSC for power consumption metering, power demand metering, and for use in troubleshooting its electrical power systems.

3.) In support and promotion of NASA's Strategic Plan, NASA's Strategy for Environmental Excellence in the Twenty-First Century, and NASA Policy Directive (NPD) 8500.1, "NASA Environmental Management," and consistent with the requirements of the National Energy Conservation Policy Act (NECPA), as amended by the Energy Policy Act of 1992 (EPACT), and Executive Order (EO) 13123, "Greening the Government Through Efficient Energy Management," KSC is required to reduce energy consumption, starting with a 1985 baseline, and meeting reduction goals established for 1990, 2000, 2005 and 2010. The legislation and NASA policy directives require KSC to demonstrate is progress toward these goals by providing consumption data, per facility, to NASA Headquarters and subsequently to the Department of Energy. To this end, in 1992 KSC began the process of evaluating electrical metering products to meet its needs. The technical review resulted in the selection and procurement of the Square D brand multifunction power meter. As a part of a Shuttle program funded initiative, KSC installed a large electrical metering network based on the Square D meter using the Square D manufactured System Manager Software and associated network communications hardware. The device described in this action is the multifunction power meter and its associated network option. This hardware assembly represents the field device required for compatibility with the existing metering network and supervisory software. The total estimated value of this assembly is $1,800 per power meter unit. There are 2 (two) units needed for this contract action for a total cost of $3,600.

   a. Contracting without full and open competition is permitted pursuant to 10 U.S.C. 2304 (c) (1) because the equipment required by KSC is only

available from one source and no other type of equipment will fully satisfy our requirements. There is a reasonable basis to conclude that KSC's minimum requirements can only be satisfied by the unique equipment available from the Square D Company. This meter and its associated communications hardware is the only device capable of full compatibility with the existing KSC Power Metering Network and Kennedy Complex Control System (KCCS) at KSC. Register map and communications settings used within the KCCS system are tailored to the configuration of the Square D PM800 series, the CM3000 series, and the CM4000 series meters. The Square D power meters are the only commercially available devices fully compatible with the existing Square D system infrastructure.

b. The System Manager Software (SMS) package currently in use throughout KSC is the primary engineering software for system monitoring and data collection and is manufactured by the Square D Company. The software allows KSC personnel to access proprietary device functions such as meter configuration, data logging, waveform capture, and onboard alarming. No other software package allows this level of access. This software exists in client/server form with 4 licensed servers running on site. This software is tailored for the Square D line of power meters and cannot be used to integrate other manufacturers' products with the required level of compatibility. The use of another manufacturer's product would drive KSC to develop a similar server software structure around that manufacturer's product line at a significant cost to the government.

c. The KCCS system is KSC's central facility monitoring platform. The network protocol standardized for use in KCCS is the Modbus transmission control protocol/internet protocol (TCP/IP) protocol over Ethernet. The Square D PM800 series, the CM3000 series, and the CM4000 series use this protocol as its native communication interface. In addition to the data collected by the SMS servers, KCCS polls these power meters providing KSC electrical distribution system status to the Complex Control Center (CCC) located in the Launch Control Center (LCC). Data provided by this meter to the KCCS console in the CCC is monitored 24 hours a day and is used to establish systems status at critical power distribution locations throughout KSC. The Modbus TCP/IP driver used by KCCS to communicate with its field controllers is fully compatible with the Square D PM800 series and has been fine tuned by the KCCS system's manufacturer for interface with the Square D meter. The KCCS interface to the Square D meter has been extensively tested and refined by the government to meet operational needs. Further, the government, at its expense, has developed interface software within the KCCS system around the Square D meter's architecture, register map, and network adapter settings. The choice to develop this interface software around the Square D meter was based on the device's technical competence, the large installed base of the meter type, and the government's (both NASA and

prime contractor) in-house knowledge of the Square D metering system. The use of any other manufacturer's equipment would drive the government to duplicate this KCCS interface for another hardware type at a significant cost to the government.

d. More than 15 KSC NASA and prime contractor personnel have received Square D certified training on the PM800 series, the CM3000 series, the CM4000 series, and the SMS software for a total cost in excess of $35,000.00. The use of any other manufacturer's equipment would drive the government to develop a comparable level of competence on that device type in addition to maintaining its current competence on the Square D product.

e. The government has made a significant investment in Square D meters and monitoring software. KSC has more than 600 Square D metering devices installed that communicate to the SMS/KCCS servers (8 servers online with 2 more online near term). The size of the installed meter base has driven the government to maintain spare parts and meters in federal stock. The use of any other manufacturer's equipment would drive the government to spare other device hardware in addition to maintaining its current stock of the Square D product.

4.) The project specifications for the Square D meter type were written to fully explain the government's requirements regarding power meters. These specifications were used to inform all potential meter manufactures of the government's interface needs. The government, through its contracted engineering firm, requested a review of these specifications by three leading electrical metering manufacturers. The government specifically asked the electrical metering manufacturers if they can meet this specification and to provide an explanation of any negative responses. To date, no response has been received.

5.) Efforts will be made to ensure that offers are solicited from as many potential sources as practicable. The project specifications for the Square D meter, written to fully explain the government's requirements regarding power meters and the government's interface needs, will be included in the solicitation specifications. Additionally, this Brand Name Determination will be posted with the solicitation on the Federal Business Opportunities website at www.fbo.gov.

6.) It is determined that the price of the prime contract, including the PM820 meter unit, will be fair and reasonable. The overall competitive nature of this low price technically acceptable procurement will entice bidders to seek the most advantageous pricing from Square D authorized distributors and supply houses as well as reasonable pricing from all other equipment and material suppliers.

7.) As discussed in paragraphs 3 and 4 above, market research was conducted during the initial deployment of networkable power meters and it was determined that the Square D metering line best suited the needs of the government. Since that market research, KSC has revisited the issue soliciting product demonstrations from other leading metering manufacturers including Cutler-Hammer and Power Measurements Limited in FY2000 and FY2001. The resulting consensus of KSC's technical community has been that while other metering packages have made significant improvements and exhibit excellent new features, no other meter is capable of full and complete integration within the existing KSC hardware, software and operator interface environment.

8.) As described in item 6 above, KSC has sent written correspondence to other leading manufacturers requesting a review of the boilerplate KSC specification regarding electrical distribution gear of which power meters are a part. Although this effort was made by the government to inspire the cooperation and involvement of other potential sources, no response to this inquiry was received.

9.) A sources sought synopsis describing this acquisition was posted on 10/03/11 and two responses were received: Guardian Manufacturing, Inc, and Stacon, Inc. No comments relative to the acquisition and installation of electrical power meters were received. Approval to procure this acquisition as a full and open procurement was received from the Small Business Administration on 11/10/11.

10.) Future actions to remove barriers to competition will include continued efforts to reach out to other manufacturers for compatible electrical power meters in order to reduce the amount of equipment that must be procured on a single manufacturer basis.

Pursuant to FAR 6.303-2(c), I hereby certify that the supporting data furnished in support of contracting by other than full and open competition, under 10 U.S.C. 2304(c) (1), with Square D Company for the purchase and installation of two power meters is complete and accurate to the best of my knowledge and belief.

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Larry Kiel	Sherry L Gasaway
LDE, Facilities Division	Contracting Officer
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